

## Fit knees for life

Are you recovering from a knee injury? Or, perhaps you want to strengthen a weak knee. Maybe you are getting in shape for sports like skiing or running. Whatever the reason, a fit knee workout can help. Your healthcare provider can tailor an exercise program to your needs. Read on to learn how to get started.

### **Doing the workout**

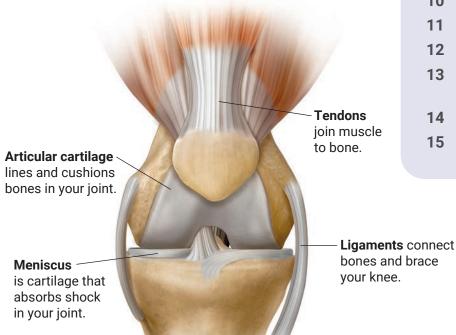
Stretching and strengthening exercises can help you keep your knees in shape and lower your risk of injury. Many of the exercises in this booklet can be done at home. Others may require the use of machines at a gym or physical therapy center. For best results:

- Do each exercise as often as directed. Slowly increase the number of repetitions you do. As you become stronger, add weights or resistance bands.
- Inhale as you start an exercise. Exhale during the movement. Breathe normally: Don't hold your breath.
- Stop exercising if you have pain or swelling.



### A joint that is easily injured

The knee is a complex joint. It can bend and rotate slightly. If you put a lot of stress on your knee, you may injure it. Once your knee has been injured, it can easily be injured againunless you build up surrounding muscles. These muscles provide strength for movement. They also help support and stabilize the knee, so that it's less prone to injury.



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bones and brace your knee.

### **NOTES**

These exercises are safe for most people. Your healthcare provider may add special instructions so that you can get the most from each exercise. Some exercises have more challenging variations. Ask your healthcare provider before trying these. For each exercise, check the NOTES box for tips to exercise safely.

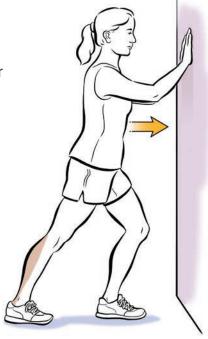
# Calf stretch

#### How to

- 1 Place the palms of your hands flat against a wall. Put 1 foot several inches behind the other. Point both feet straight ahead.
- 2 Bend your front leg. Keep both heels on the floor and your back leg straight. Hold for 30 seconds. Relax. Repeat 2 times. Then switch sides.

### **Special instructions**





### **NOTES**

- Don't lift your heel or bounce.
- Don't arch your back.

The calf stretch makes the muscles in your lower legs more flexible. It helps your legs handle walking, bending, and pushing more easily.

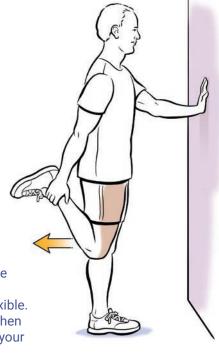
# Thigh stretch

### **Quadriceps: How to**

- 1 Stand an arm's length away from a wall. Keep your eyes facing straight ahead. Place your left hand flat against the wall.
- 2 Hold your right ankle with your right hand. Pull your thigh straight back. Don't arch or twist your back. When you feel the stretch in your thigh, hold for 30 seconds. Relax. Repeat 2 times. Then switch sides.



Thigh stretches make your quadriceps and hamstrings more flexible. These muscles can then straighten and bend your knee more easily.



**Special instructions** 

### **Hamstrings: How to**

- 1 Sit on the floor. Extend 1 leg out straight, flat against the floor. Bend the other leg, bringing that foot near the straight leg's knee.
- 2 Lean forward, keeping your back straight. Feel the stretch in the back of your thigh. Hold for at least 30 seconds. Relax. Repeat 2 times. Then switch sides.



# Leg raises

### Straight leg raise: How to

- 1 Sit on the floor, with 1 leg straight and the other bent. Point the toes of your straight leg toward the ceiling. Press the back of your knee down while tightening the muscles on the top of your thigh.
- 2 Raise your straight leg 6 to 8 inches. Lower it slowly and smoothly back to the floor. Relax. Repeat 10 times. Then do the other leg.



### Short arc quad: How to

- 1 Sit on the floor with 1 leg bent. Roll up a towel. Place it under your straight leg just above your knee.
- 2 Straighten your knee, lifting your lower leg off the floor. Hold for 5 seconds. Relax. Repeat 10 times. Then do the other leg.





The straight leg raise and short arc quad strengthen the quadriceps. This helps you with activities like walking and stepping off stairs more safely.

### **Special instructions**

Challenge yourself
For greater resistance, use weights around your ankles.

# 3-Way leg exercises

#### How to

- 1 Lie on 1 side. Raise your top leg about 6 to 8 inches. Keep your legs and hips straight. Hold for 5 seconds, then lower. Repeat 10 times. Switch legs.
- 2 Lie on your stomach. Raise 1 leg as high as you comfortably can. Keep your back and both legs straight. Hold for 5 seconds, then lower. Repeat 10 times. Switch legs.
- 3 Lie on 1 side with your top leg bent behind the other. Raise your straight leg as high as you comfortably can. Hold for 5 seconds, then lower. Repeat 10 times. Switch legs.







### **NOTES**

- When lying on your side, don't roll onto your hip.
- Don't arch your back.

These exercises strengthen front and back thigh muscles and buttock muscles. They help with moves such as getting out of a chair.



### Challenge yourself

Place an elastic band or tubing around both ankles. Hold it down with your bottom ankle. Be careful to raise and lower your top leg slowly and steadily.



# Wall squat

#### How to

1 Stand with your back and head against a wall. Look straight ahead. Keep your feet about 12 to 18 inches away from the wall and shoulderwidth apart.

2 Keep your head against the wall. Slowly slide straight down to a near-sitting position. Hold for at least 10 seconds. Then slowly slide back up. Repeat 10 times.

### **NOTES**

 Don't lower your buttocks below your knees.







The wall squat helps to increase knee stability and strength. This exercise also makes it easier to get in and out of cars and chairs.

### Challenge yourself

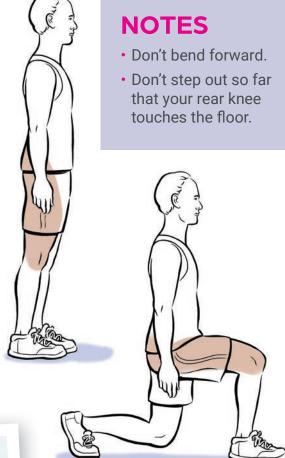
As you become stronger, do the same exercise standing away from the wall. Hold weights in your hands, and keep your hands near waist level.

# Leg lunge

#### How to

- 1 Stand with your feet shoulder-width apart.
- 2 Step out as far as you comfortably can. Keep your back straight. As you step, the heel of the foot in back comes off the floor. Return smoothly to your starting position. Repeat 10 times. Switch legs.

### **Special instructions**





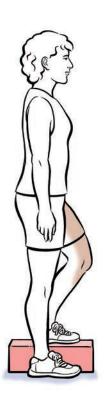
The leg lunge, like the wall squat, builds quadriceps, hamstring, and buttock muscles. This gives you a greater ability to squat down and climb hills and steps.

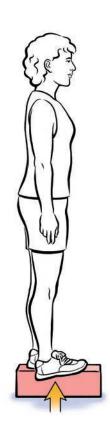
# Step-ups

#### How to

- 1 Stand with your left foot raised on a 3 to 5 inch support (such as a block of wood). Keep your right foot flat on the floor.
- 2 Shift your weight onto the left leg. As your right leg comes off the floor, straighten your left knee. Slowly lower your right leg back down to the floor by bending your left knee. Repeat 10 times. Then switch legs.







Step-ups strengthen your quadriceps.
Stronger quadriceps take some of the strain off your knee during high-stress activities like climbing stairs.

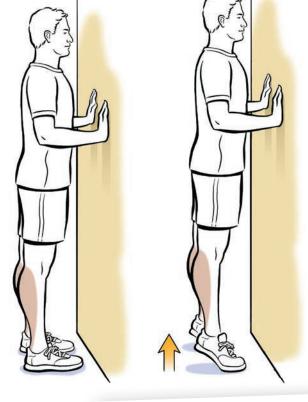
### **NOTES**

- Don't lock the knee of the raised leg.
- Don't push off with the foot that's on the floor.

# Heel raises

#### How to

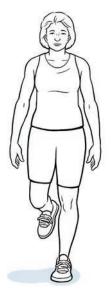
- 1 Stand with both feet flat on the floor, shoulder-width apart. If you need a support, steady yourself with your hands on a wall, counter, or table.
- 2 Raise both heels so you're standing on your toes. Hold for 5 seconds. Then lower your heels to the floor slowly. Repeat 10 times.



### **Special instructions**

### Challenge yourself

Stand up straight, arms at your sides. Bend your right leg at the knee to lift your right foot up behind you. Do 10 heel raises with the left foot. Then switch legs.





Heel raises strengthen your calf muscles. Your knees are then better able to withstand strain while walking or running.

# Step machine

#### How to

- 1 Position yourself with your hips over your knees. Keep your back straight. Don't put weight on your hands. Use railings for balance only.
- 2 Take short steps. Exercise for 5 to 10 minutes to start. Gradually increase the amount of time you use the machine.

### **NOTES**

 Check with your healthcare provider before using this machine.



# Bike and elliptical machines

### **Bicycle: How to**

- 1 Adjust the seat so your knee is bent slightly when the pedal is all the way down.
- 2 Use a setting with low resistance. Exercise for about 5 minutes to start. Then slowly increase the amount of time you use the machine.

### **NOTES**

 Check with your healthcare provider before using these machines.

### Elliptical: How to

- 1 Adjust the machine to fit your size and range of movement. Maintain good posture: Keep your shoulders back, head up, and chin level. Tighten your abdominal muscles. Don't lean forward, put your weight on your hands, or grip the railings too tightly.
- 2 Push forward with 1 leg while sliding backward with the other. Maintain a good stride. Exercise for 5 minutes to start. Gradually increase the amount of time you use the machine.





# Leg press machine

#### How to

- 1 Use the foot plate without weights to start. Position yourself so your head is on the headrest and your legs and back are straight.
- 2 Bend your knees. Then press your legs until they're almost straight. Repeat 10 times.

### **NOTES**

- Don't lock your knees or bend them more than 90 degrees.
- Press and release slowly.



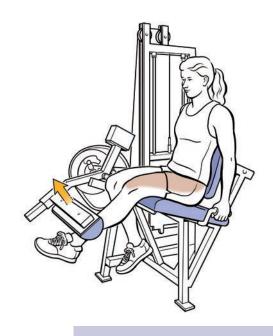


The exercise machines on these pages help build strong quadriceps and hamstring muscles. Strengthening these muscles can help keep the knees stable and absorb stress while you run, jump, or change direction. Keep in mind, leg press machines may vary. Follow instructions from your provider on the type of leg press machine you use.

# Knee machines

### **Quadriceps: How to**

- 1 Use the lightest weight to start. Begin with 1 leg bent against the quad machine.
- 2 Extend your leg slowly. Don't lock your knee or arch your back. Hold briefly. Then lower your leg slowly and steadily. Repeat 10 times. Switch legs.



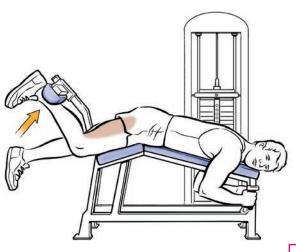
### **Special instructions**

### **NOTES**

 If you have knee problems, check with your healthcare provider before using these machines

### **Hamstrings: How to**

- 1 Use the lightest weight to start. Lie down on the machine. Keep your hips and stomach pressed against the pad.
- 2 Move 1 leg slowly up and down. Don't arch your back. Repeat 10 times. Switch legs.



#### **Chart your progress**

The key to a fit knee is a personal workout program. This program is tailored to your needs by your healthcare provider. Exercise each day and you'll be rewarded with results that can last a lifetime. Check the box each day you work out at home or at a gym. And don't forget to pat yourself on the back for your good work!

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WK 1							
WK 2							
WK 3							
WK 4							
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WK 8							

Talk to your healthcare provider about adding low-impact aerobic exercises, such as walking and swimming, to your fit knee workout.

Also available in Spanish

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